DM-TX-300N-F

DigitalMedia™ Fiber Transmitter 300N

The DM-TX-300N-F is a DM® Fiber transmitter and switcher that features a full complement of high-definition digital and analog AV inputs. It provides a remarkably simple, yet versatile interface for connecting nearly any computer or AV source to a Crestron® DigitalMedia system. Boasting HDMI®, DVI, RGB, and multi-format analog video inputs, plus digital and analog audio inputs, the DM-TX-300N-F is ideal for use at a lectern, conference table, equipment cabinet, or wall plate input to send signals to a display or switcher many feet away.

DigitalMedia™

As the leader in HDMI and control system technologies, Crestron has developed DigitalMedia, the first complete HD AV distribution system that takes HDMI to a higher level, and allows virtually any mix of AV sources to be distributed throughout the home, office, school, or virtually any other facility.

DigitalMedia distributes uncompressed digital video and audio signals up to 1000 feet (300 m) using multimode fiber optic cable[1]. DigitalMedia thoughtfully manages all of the different signals and devices, matching each source's output to the capabilities of the selected display(s) without using scaling or compression. Every signal is preserved in its native video resolution and audio format, ensuring a pure, lossless signal path throughout.

Multimedia Computer/AV Interface

The DM-TX-300N provides versatile switching between three different video and audio sources. Inputs on the DM-TX-300N-F include multi-format analog video, HDMI, DVI-I, balanced and unbalanced line-level audio, and SPDIF digital audio. The HDMI input supports HDMI with HDCP, handling WUXGA computer resolutions and 1080p60 HDTV with multi-channel lossless audio. The HDMI input can also handle DisplayPort Multimode signals using an appropriate adapter or dongle[2]. The DVI-I input handles DVI as well as analog RGB signals[3] up to WUXGA 1920x1200 pixels. The multi-format analog video input accepts component HDTV signals up to 1080p60, as well as standard definition NTSC/PAL composite and S-Video. Audio inputs include HDMI, stereo balanced line-level, stereo unbalanced RCA, and SPDIF coaxial digital.

A single DM Fiber output is provided to feed a centralized DM switcher, or to drive a single DM-RMC-100-F Receiver/Room Controller at the display location. An HDMI output is also included, which may be set to follow the DM output, or to provide a constant pass-through signal from the DVI-I input to feed a local monitor.

For a total custom installation solution, Crestron offers a complete range of professional AV interface cables and wall plates to complement the DM-TX-300N-F.

QuickSwitch HD® Technology

Crestron exclusive QuickSwitch HD technology minimizes the annoying switching latency that plagues typical digital AV switchers. QuickSwitch HD achieves very fast switching of digital signals by maintaining a constant HDCP connection with each device in the system, eliminating the need to re-authenticate each time a different source is selected.

EDID Format Management

The DM-TX-300N-F allows for management of the EDID (Extended Display Identification Data) information that passes between the display devices and input sources in the system. Using Crestron Toolbox™ software, the format and resolution capabilities of each device can be assessed and managed through the DM-TX-300N-F, ensuring reliable operation by instructing sources to output only the resolutions and formats that can be handled by the displays and system wiring.

Embedded Device Control

The primary objective of every Crestron system is to enable precisely the control desired for a seamless user experience. The DM-TX-300N-F includes built-in IR, RS-232, and Ethernet control ports to allow programmable control of the devices connected to it. The DM-TX-300N-F also provides an alternative to conventional control methods by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Through its connection to the control system, the DM-TX-300N-F provides a gateway for controlling the connected source device right through the HDMI connection, potentially eliminating the need for any dedicated control wires or IR probes.

Compact and Versatile

The DM-TX-300N-F is designed to be placed on a shelf or mounted in an equipment rack or lectern. It is compact enough to fit inside a presentation lectern or beneath a table. An array of indicators on the front of the DM-TX-300N-F provides for easy setup and troubleshooting, verifying the status of connections and signal activity at a glance. Advanced configuration is enabled through Crestron Toolbox™ software.

A Digital Upgrade for Legacy Systems

The DM-TX-300N-F also affords a perfect signal converter for integrating DigitalMedia with analog-based systems like Crestron MPS, QuickMedia®, and the CEN-RGBHV Series. A simple HD15 VGA cable connected between the output of an MPS system and the DVI-I input of the DM-TX-300N-F allows every RGB, component, S-Video, and composite video input on the MPS to be converted to DigitalMedia[3]. Analog audio is converted similarly through a balanced stereo audio cable. The DM-TX-300N-F's HDMI, DVI, and SPDIF inputs may also be used to expand the input capabilities of the MPS system to handle digital AV sources.

Please refer to the DigitalMedia Design Guide, Doc. #4789 for additional information.

DM-TX-300N-F DigitalMedia™ Fiber Transmitter 300N

> DigitalMedia™ transmitter and multimedia interface

> Built-in 3x1 AV switcher

> DM® Fiber output supports up to 1000 ft cable length[1]

> Provides HDMI®, DVI, RGB, and multi-format video inputs

> Includes balanced/unbalanced analog and SPDIF audio inputs

> Affords single-wire connection to a DM-RMC-100-F or DM-MD switcher

> Detects and reports detailed video and audio input information

> Performs automatic AV signal format management via EDID

> QuickSwitch HD® technology achieves low-latency switching

> Enables device control via CEC, IR, RS-232, and Ethernet

> Easy setup and diagnostics tools via software

> Extends the life of analog-based AV systems

> Single-space 19-inch rack-mountable

SPECIFICATIONS

Video

Switcher: 3x1 combination digital/analog switch, Crestron QuickSwitch HD®
Input Signal Types: HDMI®, DisplayPort Multimode[2], DVI, RGB, component (YPbPr)[3], S-Video (Y/C)[3], composite[3]
Output Signal Types: DM Fiber (DigitalMedia over multimode fiber optic cable), HDMI, DVI[2]
Formats: HDMI, DVI, HDCP content protection support, RGBHV up to UXGA/WUXGA, HDTV up to 1080p60, NTSC or PAL
Input Resolutions, HDMI & DVI, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1080@24Hz, 2048x1152@60Hz, plus any other resolution allowed by HDMI up to 165MHz pixel clock
Input Resolutions, HDMI & DVI, Interlaced: 720x480@30Hz (480i), 720x576@25Hz (576i), 1920x1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165MHz pixel clock
Input Resolutions, RGB: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 1024x768@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1080@24Hz, 2048x1152@60Hz
Input Resolutions, Component: 480i, 576i, 480p, 576p, 720p50, 720p60, 1080i25 (1125 lines), 1080i30, 1080p30, 1080p50 (1125 lines), 1080p60
Input Resolutions, Composite and S-Video: 480i, 576i
Output Resolutions: Matched to inputs

Communications

DigitalMedia: DM Fiber, HDCP management, EDID format management, CEC
Ethernet: 10BaseT/100BaseTX, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, RSTP

Connectors

HDMI OUT: (1) 19-pin Type A HDMI female;
HDMI digital video/audio output;
Carries same audio and video signals as DM OUT, or same signal as DVI-I input
DVI-I IN: DVI-I female (or DB15HD female via adapter included);
DVI, RGB (VGA), or component (YPbPr) video input[3];
Analog Formats: RGBHV, RGBS, RGsB, YPbPr;
Analog Input Levels: 0.5 to 1.5 Vp-p with built-in DC restoration;
Analog Input Impedance: 75 Ohms;
Analog Sync Input Type: Autodetect RGBHV, RGBS, RGsB, YPbPr;
Analog Sync Input Level: 3 to 5 Vp-p;
Analog Sync Input Impedance: 1k Ohms
AUDIO IN (BALANCED): (1) 5-pin 3.5mm detachable terminal block;
Balanced/unbalanced stereo line-level inputs;
Input Impedance: 24k Ohms balanced/unbalanced;
Balanced Input Level: 4 Vrms maximum;
Unbalanced Input Level: 2 Vrms maximum
AUDIO IN, SPDIF: (1) RCA female;
S/PDIF coaxial digital audio input;
SPDIF and UNBALANCED AUDIO IN inputs are mutually exclusive;
Input Impedance: 75 Ohms
AUDIO IN (UNBALANCED): (2) RCA female;
Unbalanced stereo line-level audio input;
UNBALANCED and SPDIF AUDIO IN inputs are mutually exclusive;
Input Level: 2 Vrms maximum;
Input Impedance: 15k Ohms
VIDEO IN: (3) RCA female comprising (1) auto-sensing multi-format analog video input;
Signal Types: Component (YPbPr), S-Video (Y/C), or composite input;
Input Level: 1 Vp-p nominal;
Input Impedance: 75 Ohms nominal
HDMI IN: (1) 19-pin Type A HDMI female;
HDMI digital video/audio input
DM OUT, D & M: (1) DM Fiber output composed of (2) SC female optical fiber connectors;
Connects to DM Fiber input of a DM switcher, receiver/room controller, or other DM device via CresFiber 8G fiber optic cable[1]
24VDC: (1)2.1mm barrel DC power jack;
24 Volt DC power input;
PW-2420RU power pack included
IR: (1) 2-pin 3.5mm detachable terminal block, IR/Serial port;
IR output up to 1.1 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 19200 baud
COM: (1) 5-pin 3.5mm detachable terminal block, bidirectional RS-232 port;
Up to 115.2k baud, hardware and software handshaking support
LAN: (1) 8-wire RJ45 female w/2 LED indicators;
10BaseT/100BaseTX Ethernet port;
Green LED indicates link status;
Amber LED indicates Ethernet activity
G: (1) 6-32 screw, chassis ground lug

Controls & Indicators

PWR: (1) green LED, indicates operating power supplied via local power supply
RESET: (1) recessed miniature pushbutton for hardware reset
DM LINK: (1) green LED, indicates connection to a downstream DM device
CNTRL: (1) red/green dual-color LED, indicates Ethernet connection and control system communication status
INPUT, HDMI: (1) green LED, indicates HDMI input is selected
INPUT, DVI-I: (1) green LED, indicates DVI-I input is selected

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Enclosure

Chassis: Metal with black finish, vented top and sides
Faceplate: Extruded aluminum, black finish with polycarbonate label overlay
Mounting: Freestanding or 1U 19-inch rack-mountable (adhesive feet and rack ears included)

Dimensions

Height: 1.91 in (49 mm);
1.70 in (44 mm) without feet
Width: 17.03 in (433 mm);
19.00 in (483 mm) with ears
Depth: 8.83 in (225 mm)

Weight

3.6 lb (1.7 kg)

Available Models

DM-TX-300N-F: DigitalMedia™ Fiber Transmitter 300N

Included Accessories

PW-2420RU Power Pack, Desktop, 24VDC, 2A (50 Watts), Regulated, US/International [Included Quantity: 1]

Available Accessories

CRESFIBER8G-NP-SP500: CresFiber® 8G Fiber Optic Cable, 50/125 x4 breakout, non-plenum, 500 ft spool [Available December, 2010]
CRESFIBER8G-NP-SP1000: CresFiber® 8G Fiber Optic Cable, 50/125 x4 breakout, non-plenum, 1000 ft spool [Available December, 2010]
CRESFIBER8G-P-SP500: CresFiber® 8G Fiber Optic Cable, 50/125 x4 breakout, plenum, 500 ft spool [Available December, 2010]
CRESFIBER8G-P-SP1000: CresFiber® 8G Fiber Optic Cable, 50/125 x4 breakout, plenum, 1000 ft spool [Available December, 2010]
CRESFIBER-CONN-SC50UM-12: CresFiber® Fiber Optic Cable Connector (AFL Telecommunications™), SC 50µm, 12-Pack
CRESFIBER-DUAL-SC-P-1.5: CresFiber® Duplex Fiber Optic Cable Assembly, 50/125, SC, Plenum, 1.5 ft
CRESFIBER-DUAL-SC-P-3: CresFiber® Duplex Fiber Optic Cable Assembly, 50/125, SC, Plenum, 3 ft
CRESFIBER-DUAL-SC-P-6: CresFiber® Duplex Fiber Optic Cable Assembly, 50/125, SC, Plenum, 6 ft
CRESFIBER-DUAL-SC-P-12: CresFiber® Duplex Fiber Optic Cable Assembly, 50/125, SC, Plenum, 12 ft
CRESFIBER-DUAL-SC-P-20: CresFiber® Duplex Fiber Optic Cable Assembly, 50/125, SC, Plenum, 20 ft
CRESFIBER-DUAL-SC-P-30: CresFiber® Duplex Fiber Optic Cable Assembly, 50/125, SC, Plenum, 30 ft
CRESFIBER-DUAL-SC-ARMORED-P-60: CresFiber® ARMORED Duplex Fiber Optic Cable Assembly, 50/125, SC, Armored, Plenum, 60 ft
CRESFIBER-DUAL-SC-ARMORED-P-100: CresFiber® ARMORED Duplex Fiber Optic Cable Assembly, 50/125, SC, Armored, Plenum, 100 ft
CRESFIBER-DUAL-SC-ARMORED-P-200: CresFiber® ARMORED Duplex Fiber Optic Cable Assembly, 50/125, SC, Armored, Plenum, 200 ft
CRESFIBER-DUAL-SC-ARMORED-P-300: CresFiber® ARMORED Duplex Fiber Optic Cable Assembly, 50/125, SC, Armored, Plenum, 300 ft
CRESFIBER-SINGLE-SC-CLEAR-NP-30: CresFiber® CLEAR Simplex Fiber Optic Cable Assembly, 50/125, SC, Non-Plenum, 30 ft
CRESFIBER-SINGLE-SC-CLEAR-NP-60: CresFiber® CLEAR Simplex Fiber Optic Cable Assembly, 50/125, SC, Non-Plenum, 60 ft
CRESFIBER-SINGLE-SC-CLEAR-NP-100: CresFiber® CLEAR Simplex Fiber Optic Cable Assembly, 50/125, SC, Non-Plenum, 100 ft
IRP2: IR Emitter Probe
CNSP-XX: Custom Serial Interface Cable
CBL-HD-1.5: Crestron® Certified HDMI™ Interface Cable, 1.5 ft
CBL-HD-DVI-1.5: Crestron® Certified HDMI™ to DVI Interface Cable, 1.5 ft
CBL-HD-DVI-3: Crestron® Certified HDMI™ to DVI Interface Cable, 3 ft
CBL-HD-DVI-6: Crestron® Certified HDMI™ to DVI Interface Cable, 6 ft
CBL-HD-DVI-12: Crestron® Certified HDMI™ to DVI Interface Cable, 12 ft
CBL-HD-DVI-20: Crestron® Certified HDMI™ to DVI Interface Cable, 20 ft
CBL-HD-DVI-30: Crestron® Certified HDMI™ to DVI Interface Cable, 30 ft
CBL-DP-HD-1.5: Crestron® Certified DisplayPort to HDMI™ Interface Cable, 1.5 ft
CBL-DP-HD-3: Crestron® Certified DisplayPort to HDMI™ Interface Cable, 3 ft
CBL-DP-HD-6: Crestron® Certified DisplayPort to HDMI™ Interface Cable, 6 ft
CBL-DP-HD-12: Crestron® Certified DisplayPort to HDMI™ Interface Cable, 12 ft
CBL-DP-HD-20: Crestron® Certified DisplayPort to HDMI™ Interface Cable, 20 ft
CBL-DP-HD-30: Crestron® Certified DisplayPort to HDMI™ Interface Cable, 30 ft
CBL-VGA-1.5: Crestron® Certified Computer VGA Interface Cable, 1.5 ft
CBL-VGA-3: Crestron® Certified Computer VGA Interface Cable, 3 ft
CBL-VGA-6: Crestron® Certified Computer VGA Interface Cable, 6 ft
CBL-VGA-12: Crestron® Certified Computer VGA Interface Cable, 12 ft
CBL-VGA-25: Crestron® Certified Computer VGA Interface Cable, 25 ft
CBL-RCA-1.5: Crestron® Certified RCA Composite Video and S/PDIF Audio Interface Cable, 1.5 ft
CBL-RCA-3: Crestron® Certified RCA Composite Video and S/PDIF Audio Interface Cable, 3 ft
CBL-RCA-6: Crestron® Certified RCA Composite Video and S/PDIF Audio Interface Cable, 6 ft
CBL-RCA-12: Crestron® Certified RCA Composite Video and S/PDIF Audio Interface Cable, 12 ft
CBL-RCA2-1.5: Crestron® Certified RCA Stereo Audio Interface Cable, 1.5 ft
CBL-RCA2-3: Crestron® Certified RCA Stereo Audio Interface Cable, 3 ft
CBL-RCA2-6: Crestron® Certified RCA Stereo Audio Interface Cable, 6 ft
CBL-RCA2-12: Crestron® Certified RCA Stereo Audio Interface Cable, 12 ft
CBL-RCA3-1.5: Crestron® Certified RCA Component Video Interface Cable, 1.5 ft
CBL-RCA3-3: Crestron® Certified RCA Component Video Interface Cable, 3 ft
CBL-RCA3-6: Crestron® Certified RCA Component Video Interface Cable, 6 ft
CBL-RCA3-12: Crestron® Certified RCA Component Video Interface Cable, 12 ft
MP-WP100-B: Media Presentation Wall Plate - RCA Composite Video w/RCA Stereo Audio, Black
MP-WP100-W: Media Presentation Wall Plate - RCA Composite Video w/RCA Stereo Audio, White
MP-WP110-B: Media Presentation Wall Plate - Mini-DIN S-Video w/RCA Stereo Audio, Black
MP-WP110-W: Media Presentation Wall Plate - Mini-DIN S-Video w/RCA Stereo Audio, White
MP-WP120-B: Media Presentation Wall Plate - RCA Component Video w/RCA Stereo Audio, Black
MP-WP120-W: Media Presentation Wall Plate - RCA Component Video w/ RCA Stereo Audio, White
MP-WP125-B: Media Presentation Wall Plate - RCA Component & Composite Video w/2x RCA Stereo Audio, Black
MP-WP125-W: Media Presentation Wall Plate - RCA Component & Composite Video w/2x RCA Stereo Audio, White
MP-WP130-B: Media Presentation Wall Plate - DB15HD Computer VGA w/ Mini-TRS Stereo Audio, Bulkhead, Black
MP-WP130-W: Media Presentation Wall Plate - DB15HD Computer VGA w/ Mini-TRS Stereo Audio, Bulkhead, White
MP-WP131-B: Media Presentation Wall Plate - DB15HD Computer VGA w/ Mini-TRS Stereo Audio, Breakout, Black
MP-WP131-W: Media Presentation Wall Plate - DB15HD Computer VGA w/

MP-WP160-W: Media Presentation Wall Plate - DisplayPort w/Mini-TRS Stereo Audio, White
MP-WP162-B: Media Presentation Wall Plate - DisplayPort, Black
MP-WP162-W: Media Presentation Wall Plate - DisplayPort, White
MP-WP186-B: Media Presentation Wall Plate - DigitalMedia™ Fiber, Black
MP-WP186-W: Media Presentation Wall Plate - DigitalMedia™ Fiber, White

Notes:
1. The maximum DigitalMedia Fiber cable length is 1000 ft (300 m) using CRESFIBER, CRESFIBER8G, CRESFIBER-DUAL-SC, or generic OM2/OM3 duplex multimode fiber optic cable. Refer to the Crestron DigitalMedia Design Guide, Doc. #4789 for complete wiring guidelines.

2. HDMI IN requires an appropriate adapter or interface cable to accommodate a DisplayPort Multimode signal. HDMI OUT requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-DP-HD and CBL-HD-DVI interface cables available separately.

3. RGB to DVI-I adapter included. In addition to RGB, the DVI-I input can accept component, composite, and S-Video signals via direct interface to Crestron MPS Series products, or through an appropriate adapter (not included). Input sync detection is not provided for composite or S-Video signal types through the DVI-I connection.

4. Audio breakaway capabilities and limitations: SPDIF/UNBALANCED AUDIO IN and BALANCED AUDIO IN may each be switched freely regardless which video input is selected; HDMI IN audio may be switched freely except when the VIDEO IN input is selected; SPDIF and UNBALANCED AUDIO IN inputs are mutually exclusive; Front panel INPUT SELECT control switches BALANCED AUDIO IN with DVI-I IN video, SPDIF/UNBALANCED AUDIO IN with VIDEO IN, and HDMI IN audio with HDMI IN video

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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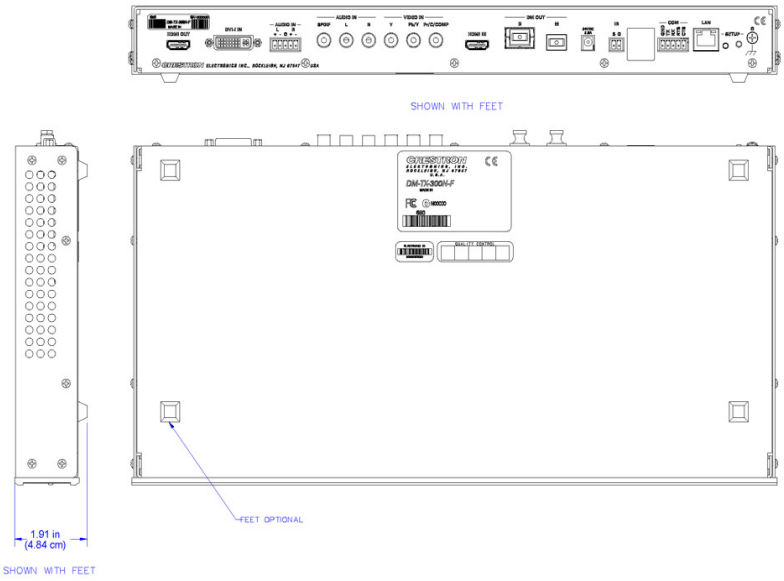

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